RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	10/764.316
Source:	IFWO,
Date Processed by STIC:	2/27/06

ENTERED



IFWO

RAW SEQUENCE LISTING DATE: 02/27/2006
PATENT APPLICATION: US/10/764,316 TIME: 09:54:36

Input Set : A:\10546109.APP

```
3 <110> APPLICANT: BORRELLI, MICHAEL J.
 5 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR HEAT ACTIVATED GENE
         THERAPY USING CYTOLETHAL DISTENDING TOXIN
 8 <130> FILE REFERENCE: 10546-109
10 <140> CURRENT APPLICATION NUMBER: 10/764,316
11 <141> CURRENT FILING DATE: 2004-01-23
13 <150> PRIOR APPLICATION NUMBER: 60/442,473
14 <151> PRIOR FILING DATE: 2003-01-24
16 <160> NUMBER OF SEQ ID NOS: 25
18 <170> SOFTWARE: PatentIn Ver. 3.3
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 2384
22 <212> TYPE: DNA
23 <213 > ORGANISM: Haemophilus ducreyi
25 <400> SEQUENCE: 1
26 agaaaagata ttgaacaggt tctaacataa agtataataa aggttcatat gcttttttac 60
27 gatattatet ggtttggttt tateaaaaaa aaggataaaa tgegaagaae ttgteetttt 120
28 aaatttaagg atggatctaa ggagagatat aatgaaaaag tttttaccta gtcttttatt 180
29 gatgggttca gtggcttgtt catcaaatca acgaatgaat gactattctc aacctgaatc 240
30 tcaatctgat ttagcaccta aatcttcaac aatacaaccc caacctcaac ccctattatc 300
31 aaaaacacct tcaatgtcac tgaatttgct atcttcatcc ggaccgaata gacaggtatt 360
32 gccgtctgaa ccatcaaact ttatgacttt gatgggacaa aatggggcac tgttgactgt 420
33 ctgggcgcta gcaaaacgca attggttatg ggcttatccc aatatatatt cgcaggactt 480
34 tggaaatatt cgtaattgga agatggaacc cggtaaacac cgtgaatatt ttcgttttgt 540
35 taatcaatct ttaggtacat gtgttgaagc ttacggtaat ggtttaattc atgatatttg 600
36 tagtetggae aaattageae aagagtttga gttattaeet aetgatagtg gtgeggttgt 660
37 cattaaaagt gtgtcacaag ggcgttgtgt cacttataat cctgtaagta caacatttta 720
38 ttcaacagtt acattatcag tttgtgatgg cgcaacagaa ccatcacgtg atcaaacatg 780
39 qtatctcqct ccccctgtat tagaagcaac agcggttaat taaactaagg agtttatatg 840
40 caatgggtaa agcagttaag tgtggttttc tgtgtgatgt tatttagctt ttcaagttat 900
41 gctaacttga gtgacttcaa agtagcaact tggaatctgc aaggttcttc agcagtaaat 960
42 gaaagtaaat ggaatattaa tgtgcgccaa ttattatcgg gagaacaagg tgcagatatt 1020
43 ttgatggtac aagaagcggg ttccttacca agttcggcag taagaacctc acgggtaatt 1080
44 caacatgggg gaacgccaat tgaggaatat acttggaatt taggtactcg ttcccgccca 1140
45 aatatggtet atatttatta ttetegttta gatgttgggg caaacegagt gaacttaget 1200
46 ategtgteae geegteaage egatgaaget tttategtae attetgatte ttetgtgett 1260
47 caatetegee etgeagtagg tateegeatt ggtaetgatg tattttttae agtgeatget 1320
48 ttggccacag gcggttctga tgcggtaagt ctgattcgta atatcttcac tacttttaac 1380
49 tcatcatcat ccccaccgga aagacgagta tatagctgga tggttgttgg tgatttcaat 1440
50 cgtgcgccgg ctaatctgga agttgcatta agacaggagc ccgcagtgag tgaaaataca 1500
51 attattattg cgccaacaga accgactcat cgatctggta atattttaga ttatgcaatt 1560
52 ttacatgatg cacatttacc acgtagagaa caggecegtg aaegtategg tgcaagttta 1620
53 atgttaaatc agttacgctc acaaattaca tccgatcatt ttcctgttag ttttgttcgt 1680
```

Input Set : A:\10546109.APP

```
54 gatcgctaag gaggatatta tgaaaaaata tttattgagc ttcttattaa tcatgatatt 1740
55 ggctttggcg agtcatgcag aatcaaatcc tgatccgact acttatcctg atgtagagtt 1800
56 atcacctcct ccacgtatta gcttgcgtag tttgcttacg gctcaaccag ttaaaaatga 1860
57 tcattatgat tcacataatt acttgagtac acattgggaa ttaattgatt acaaaggaaa 1920
58 agaatatgaa aaattacgtg acggtggtac gttagttcaa tttaaagtgg ttggtgcagc 1980
59 aaaatgtttt gctttcctgg gcaaaggcac aactgattgt aaagatactg atcatactgt 2040
60 qtttaacctt attccaacta atacgggcgc gtttttaatc aaagatgcac tattagggtt 2100
61 ttgtataaca agccatgact ttgatgattt gaagcttgaa ccttgtggag gttcagtgag 2160
62 tggtcgaacc ttttcgttgg cgtatcaatg ggggatatta cctccttttg gaccaagtaa 2220
63 aattttaata ccaccqqtqc qaaqaaatca qqqtaqctaa tqttttacat ataattqtat 2280
64 ttcttcaaat caagatcctt agtggggcga agaaatataa tgtcattatt gtgcttatgt 2340
65 taatgatcat gcaaaaatga gccaggcaga cgcagtaaga tcat
68 <210> SEQ ID NO: 2
69 <211> LENGTH: 2600
70 <212> TYPE: DNA
71 <213> ORGANISM: Campylobacter jejuni
73 <400> SEQUENCE: 2
74 tgctaaaata taagtgttta agatacatat aaattctacc tttaaaaaaca acaaaataaa 60
75 acatttttaa aaagcggaaa attataatga aatttatgtt attattttct taaaaattta 120
76 aatacatatc aaggttttta atgcaaaaaa ttatagtttt tattttatgt tgttttatga 180
77 ctttttttct ttatgcatgt tcttctaaat ttgaaaatgt aaatcctttg gggcgttcat 240
78 ttggagaatt tgaagatact gatcctttaa aactaggact tgaacctact tttcctacca 300
79 atcaagaaat tocaagttta attagoggtg otgatttagt acctattact cotattaccc 360
80 cacctttaac tagaacaagc aatagtgcca acaataatgc agcaaatggg atcaatcctc 420
81 gctttaaaga cgaagetttt aatgatgttt taatttttga aaategeeet geggtttetg 480
82 attttttaac cattttaggc cctagcggag cagctttaac ggtttgggct ttagcacaag 540
83 gaaattggat ttggggctat actttaatcg atagcaaagg atttggcgat gctagagttt 600
84 ggcaactttt gctttatcct aatgattttg caatgattaa aaatgccaaa accaatactt 660
85 gtcttaatgc ttatggtaat ggaattgtcc attatccttg tgatgcaagc aatcacgcac 720
86 aaatgtggaa acttatccct atgagcaata cagcggttca aattaaaaat ttaggaaatg 780
87 gaaaatgcat acaagcacct attacaaatc tttatggtga ttttcacaag gtttttaaaa 840
88 tttttaccgt agagtgtgca aaaaaagata attttgatca acaatggttt ttaactactc 900
89 caccttttac cgcaaaacct ttatatcgcc aaggagaggt acgatgaaaa aaattatatg 960
90 tttattttta tettttaace ttgettttge aaatttagaa aattttaatg ttggeacttg 1020
91 gaatttgcaa ggctcatccg cagccacaga aagcaaatgg agtgttagtg taagacaact 1080
92 tqtaaqtqqa gcaaacccct tagatatctt aatgatacaa gaagcaggaa ctttaccaag 1140
93 aacagccact ccaacaggac gccatgtgca acaaggtgga acacctattg atgaatatga 1200
94 gtggaattta ggaactettt caaggeetga tagggttttt atttattatt etegegttga 1260
95 tgtaggagct aatcgtgtaa atttagctat agtttcaaga atgcaagctg aagaagtgat 1320
96 tgttttacct ccacctacta cagtttcaag acccattata ggaattcgca atggaaatga 1380
97 tgcttttttc aatatccatg ctttagctaa tggaggaaca gatgtaggag caattatcac 1440
98 agctgtagat gcacattttg caaatatgcc tcaagttaac tggatgatag caggggattt 1500
99 taaccgtgat ccttctacta taacaagtac agtggataga gaattagcaa atagaattag 1560
100 agtggttttt ccaactagcg caactcaagc aagcggaggg actcttgatt atgcaattac 1620
101 aggaaattca aatagacaac aaacctatac tccaccgctt ttagctgcga ttttaatgct 1680
102 tgcaagttta agatctcata tagtttcaga tcattttcca gtaaatttta gaaaatttta 1740
103 ggacatttaa tatgaaaaaa attattactt tgttttttat gtttataact ttagcctttg 1800
104 caactcctac tggagatttg aaagatttta ccgaaatggt ttctataaga agcttagaaa 1860
105 cgggaatttt tttaagcgcc tttagggata cctcaaaaga tcctattgat caaaattgga 1920
```

Input Set : A:\10546109.APP

```
106 atattaaaga aattgtttta agcgatgagt taaaacaaaa agataaatta gctgatgaac 1980
107 ttccttttgg ttatgtgcaa tttacaaatc caaaagaaag cgatctttgt ttagccatct 2040
108 tagaagatgg aacctttgga gcaaaatctt gtcaagatga tctaaaagat ggtaaattag 2100
109 aaactgtatt ttctataatg ccaacaacaa cttcagctgt gcaaattcgt tctttagttt 2160
110 tggaatctga tgaatgtata gtaacttttt ttaatccaaa tattcctata caaaaacgct 2220
111 ttggaatagc cccttgcacc ctagatccta ttttttttgc tgaagtaaat gaactaatga 2280
112 ttataacccc acctttaaca gctgctaccc ctttagaata agatttttat cttgttctat 2340
113 ttttatattt atttaatatt tatgatatta ctaaaataca caaaataatt aataataata 2400
114 caatgtaatt taccttgctc tataattttt ttattttaat gtaatttttt gttacaataa 2460
115 atttatacat aataattatc ttggaggaaa aattggaaca aattttaaca tggcaacaaa 2520
116 tttatqaccc tttttcaaat atttggctaa gtgctttagt ggcattttta cctatactat 2580
117 gttttttagt ttgtttggtt
120 <210> SEQ ID NO: 3
121 <211> LENGTH: 2305
122 <212> TYPE: DNA
123 <213> ORGANISM: Escherichia coli
125 <400> SEQUENCE: 3
126 tattgaatag ttttgggggg aatataaaga attatatttg agtatgctgt ttgtgactct 60
127 gggaataata acgagcatta taataaactt gtttgttttt ctggtttcgc atttcctcat 120
128 taatettgtt ggtaatattt tegttgettt gttgttteta tttttttata aagaagaggt 180
129 ggtgcagagg aggaaataca gtggataaaa aactaattgc atttttgtgc acacttataa 240
130 ttactggttg ctcgaatggg atcggtgatt caccttcacc tccgggaaaa aatgtagaat 300
131 tggttggaat ccctggacaa ggtattgcag tgacttcaaa cggtgcaact ccaacacttg 360
132 gagccaacaa cactgagttt cctgaagttt caataatgag cactggtggg gcgctgctta 420
133 ctatttgggc cagacetgtt cgtaactggc tttgggggta tactcetttt gattcagtaa 480
134 attttggtga gaatcggaac tggaaggttg tggatgggaa agatgccggc acagtgaaat 540
135 ttgttaatgt tgcccagggg acttgcatgg aggcctttaa aaacggggtg atacataata 600
136 cctgtgatga taactcgtta tctcaggagt ttcagttact gccttctact aatggtaatg 660
137 tgcttataag aagtagtgcc ttgcagacgt gtataagagc agactattta agcagaacta 720
138 tattgtcacc gtttgctttt acaatcaccc ttgagaaatg ccctggtgca aaagaagaaa 780
139 cgcaagaaat gctatgggca ataagtccac ctgtcagagc ggcaaaacca aatctgatta 840
140 agccagagtt aagaccattc agaccattgc caattccacc tcatgacaaa cctgatggaa 900
141 tggagggagt atgaaaaat tattattcct gttaatgatt ttgccgggta tttcttttgc 960
142 agatttaagc gattttaaag ttgcaacctg gaatttgcag ggttcaaatg caccgacaga 1020
143 aaataaatgg aacacacatg tccgacaact tgttacggga agtggtgctg ttgatatcct 1080
144 gatggttcag gaggcagggg cagtaccagc ttctgcaacg ttgactgagc gagaatttag 1140
145 cactcctggt attccgatga atgagtatat ctggaatacc ggaaccaata gtcgcccaca 1200
146 ggagttgttt atatatttct cacgtgttga tgcattcgct aacagagtaa atcttgcgat 1260
147 tgtttcaaac agaagagctg atgaggtgat tgtattacct cctccaactg ttgtatcacg 1320
148 accgatcatc ggcattagaa ttggtaatga tgttttcttc tcaacccatg cattggcgaa 1380
149 tcggggcgtg gattcaggag caattgtaaa tagtgttttt gagttcttca acagacaaac 1440
150 ggatcctata agacaggccg ctaactggat gattgcagga gattttaacc gttcaccggc 1500
151 tacactattt tcaactcttg aaccagggat tcgcaatcat gtaaatatta ttgctccacc 1560
152 agatccaacg caagccagtg gtggtgttct tgattatgca gtagttggaa attcagtgag 1620
153 ctttgttctt cctctgttga gggcctcgtt gttattcgga ttattaagag ggcaaattgc 1680
154 ctctgatcat tttccggttg gctttattcc tggaagagga gcaagaagat gaaaacagtt 1740
155 attqtqtttt ttqttttact gctgacaggt tgtgcttctg aacctgcaaa tcagcgtaat 1800
156 cttcttactc agtttgtcgg caacaatgcc cctgtagacc ctgaacccag tccagtattg 1860
157 gttaatatca gaaacgttct tacagggggg ataatccgaa atcctgttgg cagtgacttt 1920
```

Input Set : A:\10546109.APP

```
158 aatqtaaata attgggttat atctgaaqta aaqactaatg atttggattt gatatcggca 1980
159 ccgggagggc atgttcagat taaaaatcct gatggcaatg aatgctttgc tattctaaac 2040
160 gggcaattgg cagtggctaa gcagtgctct gaaagtgacc gtaacgcatt gtttacattt 2100
161 ataaccagtg atactggggc tgtgcaaatc aagtcaatag gaagcggtca atgcctaggg 2160
162 aatqqaqaga qcattacaqa tttcaqqtta aaaaaatqtg ttgatgatct tgggcgtcct 2220
163 tttgatacgg tgccgccggg gttactctgg atgctgaatc caccattatc tccggcaata 2280
                                                                      2305
164 atqtctccat taacqaqctq atctq
167 <210> SEQ ID NO: 4
168 <211> LENGTH: 2600
169 <212> TYPE: DNA
170 <213> ORGANISM: Escherichia coli
172 <400> SEQUENCE: 4
173 attaacaaat tacaacaaag atcacattaa ataaaaattg acaattgacc tgtagttcat 60
174 catttqtaaa ttcatqattt atatcaatca cgctttgtgt tcggagtaag cttataaatt 120
175 acaaaaacga ttaaataaaa aaccacacaa taatattaaa taaaaatacg gtatcgactg 180
176 cttttgtttc aaaaggaatt gctattaaaa ctatatactt tcatttagtt ttatcaatta 240
177 atgcataact tcaaatgtaa catcaaaaac aatacacctc aaaacaatca cacaaagcaa 300
178 caaggacacc caaacaacta aggcactaat aaaaaggaga gtcccaatgt aattctttta 360
179 ttcttccatt aatttctact atctttatca taataaggac cataataatg gctaacaaac 420
180 gtacacctat ttttatagct ggaatcttga tccccatttt attaaatggt tgctcatcag 480
181 gaaaaaataa agcttatett gaceecaaag tttteeetee teaagtggaa ggaggaceaa 540
182 ccgttccttc ccccgatgag cccggacttc cattgcccgg gccaggaccg gcgctgccca 600
183 caaatggcgc aatccctatc cctgaaccag gtaccgcacc cgcagtatct ttaatgaata 660
184 tggatggete agttetaaca atgtggagee geggagetgg tteategtta tgggegtatt 720
185 atateggega etecaattea tttggggaae taegtaattg geagattatg eeeggaaeea 780
186 ggccaaatac gatacagttt cgcaatgtag acgttggtac ctgtatgaca agtttcccag 840
187 gatttaaagg gggagtacaa ctttctacag caccttgcaa gtttggaccg gaacgtttcg 900
188 atttccagcc aatggcaaca cgcaatggta attaccagtt aaaatcttta tctacaggtt 960
189 tatgcatcag agcgaatttt ttaggaagaa caccatcatc tccgtacgca acgacattaa 1020
190 caatggagcg ttgcccatca agtggagaga aaaactttga attcatgtgg tccataagcg 1080
191 aaccattaag gcctgctctg gccactattg ccaagccaga aatacgccca tttccaccac 1140
192 agccaataga accagatgag cattcaactg gaggagaaca atgaaaaaat atattatatc 1200
193 tetgatagtg tttttateat tttacgetea ageagattta aetgatttte gegttgegae 1260
194 ctggaatett caaggtgeat eegetaegae tgaaagtaaa tggaatataa atgteeggea 1320
195 attaatttct ggtgaaaatg ctgtagacat tttagctgta caagaggcag gctctccgcc 1380
196 gtcaacggct gtagatacag gtacacttat tccttcccca ggaattcccg tccgagagct 1440
197 tatctggaac ttgtcgacaa atagcaggcc acagcaagta tatatatatt tttccgctgt 1500
198 tgatgccctc ggtggaagag tcaatcttgc tctggttagc aatcggcggg ccgatgaagt 1560
199 gtttgttctt agtcctgtaa gacaaggtgg acgaccattg cttggcatac gaattggtaa 1620
200 tgatgcattt ttcactgcac acgccatagc tatgcgaaac aatgatgccc cggctcttgt 1680
201 tgaggaagtg tataacttct tccgcgacag cagagaccca gtacaccagg cgcttaactg 1740
202 gatgattctt ggtgatttca accgtgaacc tgcggattta gagatgaacc ttactgttcc 1800
203 cgtaagaagg gcatcagaaa ttatttcacc agcggcggca acacaaacca gccagcgaac 1860
204 attagattat gcagtagcag gaaactctgt ggcatttaga ccatctccgc tacaagcggg 1920
205 aattgtatat ggagccagga gaactcaaat atcttcagat catttccctg ttggcgtatc 1980
206 caqacqataa aaqaqqctat cataatgaaa aaattagcaa ttgtttttac tatgctgcta 2040
207 atagctggat gctcttcatc acaggattca gctaacaatc agatagatga attaggaaaa 2100
208 gaaaacaatt ctctattcac attccgcaat atccaaagtg gcttaatgat ccataatgga 2160
209 ttacatcagc atggccgaga gactattgga tgggaaatag tccctgtgaa aacacctgaa 2220
```

Input Set : A:\10546109.APP

```
210 gaagcacttg ttaccgatca aagcgggtgg ataatgattc gaacgccaaa cacagaccaa 2280
211 tgtttaggga cgcctgatgg aaggaacctg ctaaaaatga cgtgtaattc aacagctaag 2340
212 aaaactttgt tttctctcat accgtcaaca acaggggcag tacaaatcaa aagcgttctg 2400
213 tetgggettt gtttettaga tagtaaaaat ageggattaa gttttgaaac ggggaaatge 2460
214 attgctgact tcaaaaaacc atttgaagtt gtaccacaga gccatttgtg gatgttgaac 2520
215 ccattaaata ctgaatcgcc tattatttaa tcccatcatc gcattttgcc gggcacataa 2580
                                                                      2600
216 aaagcattat cataataagt
219 <210> SEO ID NO: 5
220 <211> LENGTH: 468
221 <212> TYPE: DNA
222 <213> ORGANISM: Escherichia coli
224 <400> SEQUENCE: 5
225 tgaaaataaa tggaacacac atgtccgaca acttgttacg ggaagtggtg ctgttgatat 60
226 cctgatggtt caggaggcag gggcagtacc agcttctgca acgttgactg agcgagaatt 120
227 tagcactect ggtatteega tgaatgagta tatetggaat aceggaacea atagtegeee 180
228 acaggagttg tttatatatt tctcacgtgt tgatgcattc gctaacagag taaatcttgc 240
229 gattgtttca aacagaagag ctgatgaggt gattgtatta cctcctccaa ctgttgtatc 300
230 acgaccgatc atcggcatta gaattggtaa tgatgttttc ttctcaaccc atgcattggc 360
231 gaatcggggc gtggattcag gagcaattgt aaatagtgtt tttgagttct tcaacagaca 420
232 aacggatcct ataagacagg ccgctaactg gatgattgca ggagattt
                                                                       468
235 <210> SEQ ID NO: 6
236 <211> LENGTH: 2743
237 <212> TYPE: DNA
238 <213> ORGANISM: Homo sapiens
240 <400> SEQUENCE: 6
241 gegggeegtt atceatttgt gttgttegee agetaggeet ggeetegtee egettegete 60
242 ggtcggtctc gcgcgccccc atagccttgc tagagggtta gcgttagcct taagtgtgcg 120
243 aatccgagga gcagcgacag actcgagacc acgctccttc ctcgggaagg aggcggcacc 180
244 tegegittga ggecegeetg egittgagge eegeetgege tigeggeeeg eetgegetig 240
245 aggcctgtct gcgtttgaga tctcattggg cgtgattgag gaatttgggg aggtttttgg 300
246 gcggtattga ggacgagggg gtccgttagt cagcatagaa tcctggagcg ggaatccctc 360
247 acceptctaaa tegeegteege egeegegeacet eegegeatete getteegeeg geegeegeeg 420
248 gccctgaaac gtgagggata gctgagatga ggcagctact gggatggccc ccatgcgcat 480
249 ttacatgcag tecgactgce gagetttega ggcagcagga tttacegtee acattectea 540
250 ctactaacca agcttttaga acagatctca caagaaccta gaggtcggta ttttttcgat 600
251 ttaaatttgc ctgttactga cgttaacgtc tttcgcctag tgagcagtag ccaacatgtc 660
252 agggtgggag tcatattaca aaaccgaggg cgatgaagaa gcagaggaag aacaagaaga 720
253 gaaccttgaa gcaagtggag actataaata ttcaggaaga gatagtttga tttttttggt 780
254 tgatgcctcc aaggctatgt ttgaatctca gagtgaagat gagttgacac cttttgacat 840
255 gagcatccag tgtatccaaa gtgtgtacat cagtaagatc ataagcagtg atcgagatct 900
256 cttggctgtg gtgttctatg gtaccgagaa agacaaaaat tcagtgaatt ttaaaaaatat 960
257 ttacgtctta caggagctgg ataatccagg tgcaaaacga attctagagc ttgaccagtt 1020
258 taaggggcag cagggacaaa aacgtttcca agacatgatg ggccacggat ctgactactc 1080
259 actcagtgaa gtgctgtggg tctgtgccaa cctctttagt gatgtccaat tcaagatgag 1140
260 tcataagagg atcatgctgt tcaccaatga agacaacccc catggcaatg acagtgccaa 1200
261 agccagccgg gccaggacca aagccggtga tctccgagat acaggcatct tccttgactt 1260
262 gatgcacctg aagaaacctg ggggctttga catatccttg ttctacagag atatcatcag 1320
263 catagcagag gatgaggacc tcagggttca ctttgaggaa tccagcaagc tagaagacct 1380
264 gttgcggaag gttcgcgcca aggagaccag gaagcgagca ctcagcaggt taaagctgaa 1440
```

VERIFICATION SUMMARY

.

DATE: 02/27/2006 TIME: 09:54:37

PATENT APPLICATION: US/10/764,316

Input Set : A:\10546109.APP